RING

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The invention relates to a ring construction having unique properties that invite analyses by an observer. The ring can be used, for instance, as jewelry for human adornment, such as a finger ring or a wrist or neck bracelet, or can be formed into an exhibit, large or small. It is a form of a puzzle.

2. THE PRIOR ART

U.S. Patent 4,042,244 discloses a Moebius ring formed from an elongated band of two sides. The Moebius phenomena, wherein a band with two sides is given a twist throughout the length of its circumference, is used to form the ring in the '244 patent.

Other prior art rings using the Moebius phenomena are known.

The Moebius phenomena is also used in numerous puzzles.

SUMMARY OF THE PRESENT INVENTION

The ring of the present invention departs from the concept of a flat band, as in the Moebius phenomena in the prior art, and deals with a triangular cross section that, when formed into a ring, has a single continuous surface,

and a single continuous ridge, that form the triangular cross section. Whereas the Moebius ring has a 180° twist of the cross section throughout the length of its circumference, the present invention requires either a 120°, or a multiple of 120°, twist, that is not 360° or a multiple of 360°, throughout one complete circumferential travel. A 360° twist, or a multiple thereof, does not work.

The ring of the present invention has a triangular cross section at any point along its circumference. The triangular cross section has three sides and three vertexes. Each of the vertexes forms a ridge.

By virtue of the ring's construction, a single continuous, endless surface extending longitudinally along the circumference of the ring forms all three sides of a triangular cross section of the ring, and a single continuous ridge forms all three vertexes of a triangular cross section of the ring. The continuous, endless ridge and the continuous, endless surface, that form a ring with a triangular cross section at any point on its circumference, is achieved by giving, to the cross section of the ring, a twist or rotation of 120°, or multiples thereof, that is not 360° or a multiple of 360°, about the

circumferential axis, through the length of the travel of one circumference of the ring.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the ring of the invention, with a triangular cross section shown in dotted lines, and the ridge, where hidden, shown in broken lines.

Figure 2 is a front view of the ring of the invention showing the continuous path of the ridge starting at point "A".

Figure 3 is a cross sectional view taken on the line 3-3 of Figure 2.

Figure 4 is a cross sectional view taken on the line 4-4 of Figure 2.

Figure 5 is a cross sectional view taken on the line 5-5 of Figure 2.

Figure 6 is a cross sectional view taken on the line 6-6 of Figure 2.

Figure 7 is a cross sectional view taken on the line 7-7 of Figure 2.

Figure 8 is a cross sectional view taken on the line 8-8 of Figure 2.

Figure 9 is a cross sectional view taken on the line 9-9 of Figure 2.

Figure 10 is a cross sectional view taken on the line 10-10 of Figure 2.

Figure 11 is a cross sectional view taken on the line 11-11 of Figure 2.

Figure 12 is a cross sectional view taken on the line 12-12 of Figure 2.

Figure 13 is a cross sectional view taken on the line 13-13 of Figure 2.

Figure 14 is a cross sectional view taken on the line 14-14 of Figure 2.

Figure 15 is a cross sectional view taken on the line 15-15 of Figure 2.

Figure 16 is a cross sectional view taken on the line 16-16 of Figure 2.

Figure 17 is a cross sectional view taken on the line 17-17 of Figure 2.

Figure 18 is a cross sectional view taken on the line 18-18 of Figure 2.

Figure 19 is a cross sectional view taken on the line 19-19 of Figure 2.

Figure 20 is a cross sectional view taken on the line 20-20 of Figure 2.

Figure 21 is a cross sectional view taken on the line 21-21 of Figure 2.

Figure 22 is a cross sectional view taken on the line 22-22 of Figure 2.

Figure 23 is a cross sectional view taken on the line 23-23 of Figure 2.

Figure 24 is a cross sectional view taken on the line 24-24 of Figure 2.

Figure 25 is a cross sectional view taken on the line 25-25 of Figure 2.

Figure 26 is a cross sectional view taken on the line 26-26 of Figure 2.

Figure 27 is a cross sectional view taken on the line 27-27 of Figure 2.

Figures 28 through 30 show a hypothetical construction of the ring to illustrate the principle of the ring.

Figure 28 is a perspective view of a straight length having a triangular cross section capable of being formed into the ring of Figure 1, having a length equal to the circumference of the ring of Figure 1.

Figure 29 is a view similar to Figure 28 showing the length twisted 120° about its longitudinal axis before being formed into a ring.

Figure 30 shows the straight length, as shown twisted or rotated in Figure 29, formed into a circumference, with

the ends of the length about to be joined, in their rotated condition.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In Figure 1, there is shown the ring 20 of the invention having a continuous, endless surface 21 and a continuous, endless ridge 22.

The ring 20, at any point along its circumference, has a triangular cross section 23, as shown, for instance, by dotted lines at 25 in Figure 1.

An examination of ridge 22 in Figure 1 will reveal that what appear to be three distinct ridges 26, 27, 28, at the vertexes of the triangular cross section 23 along the ring 20 is in reality one continuous, endless ridge 22.

In like manner, the three sides 30, 31, 32 that form the triangular cross section 23 of the ring 20, appear to be formed by three distinct different surfaces, but in reality the sides 30, 31, 32, are formed by one continuous endless surface 21.

To explain the phenomena of one continuous, endless ridge 22, and one continuous, endless surface 21, reference is made particularly to Figures 2 through 27 inclusive.

As seen in Figure 3, the ridge 22 begins at position A_1 and continues to travel around the ring 20 circumference

three times, before it comes back to its original starting point.

As it travels about the circumference of the ring 20 three times, the triangular cross section 23 of the ring will twist, or rotate, about the circumferential axis of ring 20, once, as seen in Figures 3 through 27, to where the ridge at location A_1 will coincide with location A_{25}.

Figures 28 and 29 illustrate the concept of the twist in a hypothetical construction of ring 20, to illustrate the twist which is present in the ring 20 of Figure 1 itself. The twist, in Figures 28 and 29, for conceptual purposes, is shown in a length 35 of straight bar equal to the circumference of the ring 20.

As seen in Figure 28, the length 35 of the bar is equal to the circumference of the ring 20. The length 35 of bar has a triangular cross section 23 with vertexes designated A, B, and C, at one end and A'B'C' at the other end. The length also has sides designated AB, BC, and CA at one end, and A'B', B'C', and C'A' at the other end. The bar is shown formed of a triangle which is equalateral throughout the bar length 35. However, the cross section 23 can vary throughout its length, providing it remains a triangle.

As seen in Figure 29, the bar at A'B'C' remains fixed, whereas the bar at ABC is rotated 120° about the longitudinal axis of the length 35 of the bar. The length 35 of the bar may also be twisted or rotated multiples of 120°, but not twisted or rotated 360° or multiples of 360°, to form other embodiments of the invention. A twist of 360° or multiples thereof would create a ring with three separate surfaces and three separate ridges.

The twist may be uniform throughout the circumference of the ring, or the twist may occur at a non-uniform rate throughout the circumference of the ring 20. It is necessary, however, that the twist, or rotation, as explained above, does occur.

To complete the illustration of a hypothetical construction of the ring 20 as shown in Figure 1, the length 35 of the bar of Figure 29 is bent circumferentially into the ring 20 of Figure 1, as seen in Figure 30. Side BC is joined to side A'B', side AB is joined to side A'C', and side CA is joined to side C'B'.

Vertex C' is joined to vertex A, vertex A' is joined to vertex B, and vertex B' is joined to vertex C. In Figure 30, the length 35 of the bar of Figure 29 is not yet fully bent into the circumference of the ring 20 of Figure 1.

In Figure 30, a gap is shown between the cross sections 23 shown in solid lines to illustrate that the length 35 of the bar is to continue to be bent as shown by the arrowed lines 36, 37, and 38, to fully form the ring 20.

Figures 28, 29, and 30, merely illustrate the ring's characteristics when fully formed, and form no limitation on how the ring 20 is actually constructed, as, for instance, by well known prior art molding or forging techniques. The ring 20 may be formed of metal, wood, ceramic, plastic, or any other material that is or becomes solid.

Again, it should be understood that the actual manufacture of the ring 20 would be by prior art methods, such as a molding procedure, and that Figures 28, 29, and 30 merely are to illustrate the concept involved wherein a single continuous, endless ridge 22 forms all three vertexes of any cross section 23 of the ring 20, and a single continuous, endless surface 21 forms all three sides of any cross section 23 of the ring 20.

It is believed the ring 20 of the invention will create great interest in attempts to analyze the ring. Additionally, the continuous, endless ridge 22 with its travel about the circumference of the ring, can act as a

thread that can be used to, in effect, screw or unscrew the ring 20 from the wearer, as, for instance, on or off a finger, or on or off a wrist.